

# PCS Report Attachments

## **ATTACHMENT 1**



PCS Phosphate - White Springs

October 9, 2012



Environmental Protection Agency, Region IV Emergency and Remedial Response Section 61 Forsyth St SW Atlanta, GA 30303-8960

Follow-up Notification - Release Report No. 1015715 for Phosphoric Acid

To Whom It May Concern:

This follow-up letter and attachment is being provided in accordance with 40CFR355.40(b) to update the reported quantities of a release that took place as a result of flooding caused by Tropical Storm Debby. The initial telephone report was made to the National Response Center (NRC) and the Florida State Emergency Response Center (SERC) on June 26, 2012. The NRC assigned Report Number 1015715. The SERC assigned Report Number 4449.

The release took place over two days from June 26 to June 28 at which point it was completely contained. The initial report was for 100,000 pounds of 100% phosphoric acid and an ongoing release. After the release was contained, the final total was calculated by Ardaman and Associates to be approximately 6,260,000 pounds (401,500 gallons) of phosphoric acid.

The calculation from Ardaman and Associates for this incident is attached to this letter.

This information is accurate and current to the best of the undersigned's knowledge.

If there are any questions regarding this report, please contact Bill Ellis at 386-397-8400.

Sincerely, Zusy L. Baken

Terry L. Baker General Manager

Attachment

CC:

SERC

District 3 LEPC



The following information is being supplied in accordance with 40 CFR 355.40(b) – Written Follow-up Notification:

#### Facility Information

White Springs Agricultural Chemicals, Inc. dba PCS Phosphate – White Springs 15843 SE 78<sup>th</sup> Street P.O. Box 300 White Springs, FL 32096

Lat: 30° 26' 43"

Long: 82° 50' 15"

NRC Report No.: 1015715; SERC Incident No. 4449

D & B No.: 926929480

Terry L. Baker - General Manager

#### Actions Taken to Respond and Contain the Release

An emergency diversion/storage area was used within the facility to contain the extraordinary volume of dilute process water resulting from Tropical Storm Debby. Diversion of the overflowing water from the cooling pond into the emergency diversion impoundment stopped the release.

Any Known or Anticipated Acute or Chronic Health Risks Associated with the Release

Due to the extreme rainfall, the phosphoric acid released was in a very dilute solution. The
release was further diluted as it mixed with other substantial stormwater flows both within and
external to the subject property. There were no known exposures to persons of phosphoric acid
as a result of this release.

Where Appropriate, Advice Regarding Medical Attention Necessary for Exposed Individuals

There were no known exposures or risks of exposure to persons of phosphoric acid as a result of
this release.

#### Name/Identity of the Reportable Substance

The reported release consists of process water from the phosphoric acid manufacturing process. The average concentration under normal circumstances, based on best engineering judgment and laboratory calculations, is an approximately 1.8% phosphoric acid solution. As described in the attached engineering report, the extreme rainfall event that caused the release diluted the mixture to approximately 0.63%, which was further diluted by additional stormwater.

#### Sources of the Release

The release was the result of flooding caused by Tropical Storm Debby which caused a cooling pond to overflow. The release for the June 26 – 28 incident is calculated based on the phosphoric acid content of the process water that was lost from the cooling pond.



August 16, 2012 File Number 12-13-0107

White Springs Agricultural Chemicals dba PCS Phosphate - White Springs Post Office Box 300 White Springs, Florida 32096

Attention: Ms. Karin Torain, Esq.

Subject: Estimate of Process Water and Phosphoric Acid Release Volumes, CTC

Phosphogypsum Stack System, Suwannee River Chemical Complex, Hamilton

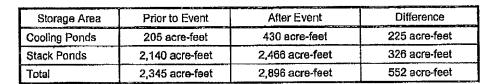
County, Florida

Dear Ms. Torain,

As requested, Ardaman & Associates, Inc., visited the subject facility on July 10, 2012 to make observations and collect data related to a process water release that occurred on June 26, 2012. We also discussed the release and collected additional information from several PCS personnel who were at the facility before, during, and after the release. The following letter summarizes the results of our analyses and presents our conclusions.

During the week of June 24, 2012, tropical storm Debbie stalled off the west coast of Florida resulting in nearly two feet of rain over most of north Florida. Rainfall measured at the CTC Chemical Complex over the 3-day period between June 24 and June 26, 2012 totaled 21.7 inches. The catchment area for the CTC phosphogypsum stack system is 467.5 acres. Our analysis of the direct rainfall on the pond system and the runoff from the stack slopes and roads to the pond system indicates that the freshwater input to the process water inventory during the 3-day storm event was approximately 808 acre-feet (263.2 million gallons). The storage available in the system was not sufficient to contain this much additional water and, on June 26, 2012, water was initially released from the system along the east wall of the below-grade cooling pond and later in the day by overtopping of the west wall of the above-grade cooling pond. The west wall earthen perimeter dike was closely inspected during our site visit on July 10, 2012 and we did not observe any physical damage to the dike during our site visit. The only evidence of the release was dead vegetation on the crest and outside slope of the dike where the release occurred.

The water levels in the different compartments of the above- and below-grade cooling pond and the different compartments on top of the gypsum stack are measured daily by PCS personnel. These water levels and previously obtained topographic and bathymetric data were used to estimate the change in the process water storage within the CTC stack system during the 3-day rainfall event. The following table summarizes the process water inventory prior to and immediately after the release.



The difference between the freshwater input to the system (808 acre-feet) and the change in storage (552 acre-feet) is equal to the volume of diluted process water released from the system.

Late in the afternoon of June 26, 2012, PCS excavated an emergency splllway through the north wall of the above-grade cooling pond to divert excess water from the stack system to a mined out area (Emergency Diversion Impoundment or EDI) located directly north of the CTC stack system. This area had previously been dewatered and was in the process of being prepared for construction of the proposed lined gypsum stack expansion. A small, unknown portion of the release was captured in this area before the water level measurements were taken on June 27, 2012. Ignoring this small captured volume, the maximum volume of diluted process water that could have been released from the CTC stack system is 256 acre-feet.

The concentration of  $P_2O_5$  in the CTC stack system just prior to the 3-day rainfall event is unknown. However, previous measurements of  $P_2O_5$  in the CTC process water indicate a pre-dilution concentration of approximately 2.0 percent. After dilution with the 808 acre-feet of rainwater, the  $P_2O_5$  concentration of the water released from the CTC stack system would have been considerably less (almost certainly less than 1.0%). Although measurements of the  $P_2O_5$  concentration of the diluted water in the CTC stack system during or immediately after the release were not obtained, measurements of  $P_2O_5$  in the Emergency Diversion Area were obtained on several occasions after July 15, 2012 and can be used to estimate the  $P_2O_5$  concentration in the release.

Because all of the water entering the EDI came from the CTC above-grade cooling pond, a reasonable estimate can be made of the  $P_2O_6$  concentration in the diluted process water that was released from the CTC stack system. Our analysis of the direct rainfall and runoff from the spoil piles in the EDI indicates that the EDI contained at least 230 acre-feet of freshwater prior to the diversion. Measurements of the water level in the EDI on July 15, 2012 indicate that the volume in the EDI increased during the diversion by approximately 640 acre-feet. This quantity was estimated from the changes in storage volume in the EDI between June 23, 2012 and July 15, 2012 using a topographic map of the mined area obtained previously as part of the design of the lined expansion. This number also compares reasonably well with the volume estimated from the change in storage in the CTC cooling ponds and gypsum sedimentation ponds between June 27, 2012 and July 10, 2012 and the estimated flow through the diversion spillway during the period between July 10, 2012 and July 15, 2012. Diversion of process water from the CTC stack system to the Emergency Diversion Impoundment was required to regain the design freeboard in the CTC cooling ponds and gypsum sedimentation ponds.

The measured  $P_2O_5$  concentration in the EDI averages approximately 0.47 percent. Based on the measured  $P_2O_5$  in the EDI and the dilution associated with the freshwater in the pond prior to the diversion, the concentration of  $P_2O_5$  in the release would have been approximately 0.63

percent. If it is assumed that all of the  $P_2O_5$  in the process water is present as phosphoric acid, the maximum quantity of phosphoric acid released from the CTC stack system would have been 2.2 acre-feet (728,600 gallons).

Not all of the released process water (or phosphoric acid) left the facility. A portion of the release entered the contaminated non-process water (CNPW) retention pond and a portion of the water was contained in a low area located south of the Dorr Oliver Cooling Pond. Water from both of these areas was pumped to the Dorr Oliver Cooling Pond between June 27, 2012 and July 15, 2012.

The Dorr Oliver Cooling Pond was empty prior to the rainfall event. During the event, approximately 178 acre-feet of freshwater entered the pond as direct rainfall and runoff from the crest road and slopes of the earthen perimeter dike. Based on water levels measured on June 27, 2012 and July 15, 2012 and estimates of the volume of water pumped from the Dorr Oliver cooling pond to the CTC stack after the event, approximately 250 acre-feet of diluted release water was pumped into the Dorr Oliver Cooling Pond. The  $P_2O_5$  concentration in the cooling pond in mid-July was 0.17 percent. Based on the measured  $P_2O_5$  concentration in the cooling pond and the dilution associated with the freshwater in the cooling pond prior to pumping any of the released water into the cooling pond, the concentration of  $P_2O_5$  in the diluted release water pumped into the Dorr Oliver cooling pond is approximately 0.3 percent. If it is assumed that all of the  $P_2O_5$  in the diluted process water pumped to the Dorr Oliver cooling pond is present as phosphoric acid, approximately 1.0 acre-feet (327,200 gallons) of the phosphoric acid in the release was recovered, i.e., the quantity of phosphoric acid released to the natural system is estimated at 401,500 gallons.

If you have any questions concerning this report or if we can be of additional assistance, please contact either of the undersigned.

Very truly yours

ARDAMAN & ASSOCIATES, INC. Certificate of Authorization Number 5950

Bill E. Jackson Principal Engineer

John E. Garlanger, Ph.D., P.E.

Senior Consultant

Florida License No. 19782

**BEJ/JEG** 

G:\Projects\2012\12-13-0107\Letter on spill volumes - 8-16-12.docx



## ATTACHMENT 2 Emergency Diversion Impoundment

#### **Background**

On June 25, 2012 Tropical Storm Debby was located off of the coast of Florida tucked into the Big Bend area of the Gulf of Mexico. Significant precipitation observed northeast of the Big Bend caused the PCS area to receive more than 21 inches of rainfall over a three day period.

During this storm, the electrical system for the Suwannee River Chemical Complex, located east and adjacent to County Road 137, became inundated with energy demands, engaging electrical safety trips on key power circuits, resulting in the loss of critical pumping systems.

With pumping capacity severely disabled, Suwannee River Chemical Operations followed emergency protocols and began releasing Process Water to the designated Emergency Diversion Impoundment (EDI), located in the previously mined area north of the CTC Cooling Pond and Gypsum Stack.

Approximately 640 acre-feet of process water was temporarily placed into the mine cuts and detained for future water treatment. At the time of impoundment, there was an estimated 230 acre-feet of fresh water already contained within the confines of the mine cuts.



Emergency Diversion Impoundment - March 5, 2012

#### **Current Situation**

Additional rainfall, during and since TS Debby will require the treatment of approximately 1,200 acre-feet of water.

#### Site Construction and Diversion Area Modification

Shortly after TS Debby passed, a contractor was commissioned to assist in modifying the layout of the area to facilitate the treatment of the contaminated water. A road through the area was reestablished and two truck unloading ramps were installed for the direct injection of a neutralizing chemical.



Truck Unloading Station West Pond

Berms were augmented as needed to reinforce containment and reduce the risk of offsite spillage.

In addition, water pathways in the form of lagoons and ditches were established to further process and prepare the water for internal consumption.



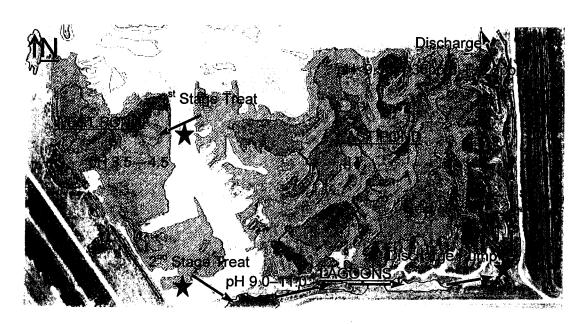
Berm Augmentation Containment Integrity



Lagoon Discharge Trench

#### **Proposed Treatment Plan**

Three 10" stainless steel, diesel-driven pumps have been located on the site to transfer water from pond to pond to lagoon and, ultimately, discharge. The most contaminated water resides in the east pond. It is treated through direct injection of lime into a transfer tee on the pump discharge from the east pond to the west pond. The following schematic delineates the flow plan and treatment:



Water Treatment Flow & Targets

The pH target for the first stage of treatment is between 3.5 and 4.5 to insure precipitation of the fluoride ion with the calcium. Second stage treatment injects additional chemical lime and drives the pH to 10.0 or 11.0 to capture the phosphate ion. The lagoons on the south end of the EDI will facilitate the containment and removal of lime sludge once treatment operations are completed.

The contaminated water will be recycled and continually tested. Only water that meets criteria applicable to contaminated non-process water in PCS's NPDES permit (Permit No. FL0000655-

004, outfalls I-S02 and I-S03) will be pumped to the Discharge Ditch for consumption in mine operations.

Treatment activities will take place between September and December with the completion sometime near Thanksgiving.

#### **Summary**

The process water that was detained in the Emergency Diversion Impoundment area north and adjacent to the CTC Gypsum Stack at Suwannee River Chemical (SRC) will be treated through a two stage process. The 640 acre-feet of  $P_2O_5$  laden water will be neutralized and consumed internally between September and December of 2012. The precipitated spoils will be managed in accordance with PCS's NPDES permit.

Once the contaminated water is removed, construction of the New SRC Lined Gypsum Stack will resume at this work site.



# ATTACHMENT 3 PCS E-Mail Reports to DEP







#### Update/Status call this afternoon re Tropical Storm Debby

Calvin.Alvarez, Melissa.M.Long, Vishwas.Sathé, Tom.Rauth

Bcc: Terry R. White

06/27/2012 12:18 AM

Thank you all for taking the time to do the conference call this afternoon regarding Tropical Storm Debby. According to the National Weather Service radar rainfall mapping system, T.S. Debby gave us over 15 inches of rain from Saturday morning through this evening, with isolated locations likely receiving more. The call this afternoon expedited delivery of information and provided for a good exchange of questions and answers.

We received the attached approval from Ardaman & Associates for temporary use of the design freeboard in our phosphogypsum stack systems.

12.6

Temporary Use of Design Freeboard 6-26-2012.pdf

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of the key points covered in our call.

#### **Process Water**

Suwannee River Chemical - CTC Cooling Pond

• The lower section of this pond, closest to SRC, overflowed its exterior bank early this morning. The flow came over the plant perimeter road into the plant's freshwater outflow ditch, which flows to the retention pond then through internal sampling points OUI-02 and OUI-04 toward D-001 (Swift Creek). We began pH monitoring immediately at several locations, and added conductivity monitoring as requested on the call. We will continue the monitoring until the overflow has ceased. The resulting release of process water was reported as a release in excess of the reportable quantity of phosphoric acid (which is the operative constituent of process water for this purpose) of an undetermined quantity. The release was reported to Federal, state, and local authorities. The overflow continued through the heavy rains of the day today, and will be assessed at first light

We will include the location of the release, monitoring locations and monitoring data in our follow-up report.

• The upper section of this pond, including the areas at the north, west, and south toes of the CTC phosphogypsum stack, reached unacceptably high levels during the day. As we discussed on the call, we were preparing to breach the northern section at a location that directed the flow into the toe of Clay Setting Area 4, then into an emergency diversion area immediately to the north of the CTC stack and west of CSA 4. We completed that work late in the day. This is the mined area that will be the location for the new lined SR stack to be constructed under agreements with DEP and EPA. The area had been dewatered as part of the early preparation for the new stack, so provides significant storage volume. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level.

We will include the location of the breach, duration and estimated volume of the flow through it, and a plan for recovery or treatment of the water in our follow-up report.

#### Mine

Clay Settling System

The maximum fluid elevation in the active clay settling areas is 152. At the time of the call, we anticipated the continuing rainfall to cause the elevation to exceed 152 by 1 foot or less. With the absence of strong winds that would cause excessive erosion, we do not believe this creates an unsafe condition. The elevations are not expected to remain above 152 for an extended time. We will continue to monitor the fluid elevations, and will include that information in our follow-up

report.

#### Eagle Lake

• The combination of excess rainfall, inflows from a variety of directions and sources, and the need to draw down the clay settling system caused the flow through Eagle Lake to rise to a level causing concern for the capacity of the discharge spillway. Late in the afternoon, we opened a breach in the berm along the northern edge of the Swift Creek mitigation wetland to allow excess water to discharge through the mitigation wetland connection channel to Swift Creek. This resulted in a partial bypass of Eagle Lake (OUI-18). The connection channel is reinforced with rip-rap, is well vegetated, and was designed with more than adequate capacity to handle this flow. Our intent is to close that breach when the flows stabilize at a normal level.

We will include information on that bypass in our follow-up report, using the bypass provisions of the NPDES permit as guidance.

#### General

• For safety reasons, we did not conduct the regular sampling run today. We will assess conditions again before the next sampling run scheduled for Thursday. Because of the extreme flows and elevations, we are concerned that our composite samplers may have been damaged or destroyed. We will report on that when we have been able to access the sites.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs

Office: 386 397 8304 Fax: 386 397 8390



June 26, 2012 File Number 06-13-0104

PCS Phosphate - White Springs P.O. Box 300 White Springs, Florida 32096

Attention: Mr. Stan Posey

Subject: Temporary Use of Design Freeboard of Process Water Cooling and Storage Pond

Perimeter Dikes Per Rule 62-672, F.A.C., White Springs Phosphogypsum Stack

Systems, Hamilton County, Florida

#### Gentlemen:

Rule 62-672.870(1), Florida Administrative Code (F.A.C.), allows temporary use of the design freeboard of a perimeter earthen dike as an emergency measure when the water level is at the design freeboard and when such use is necessary to prevent the release of untreated process water. Temporary use of the design freeboard is only allowed, however, when a third-party engineer has approved such use and when documentation demonstrating the continued safety and stability of the dike is submitted in a timely manner to the Florida Department of Environmental Protection (FDEP). As indicated below, Ardaman & Associates, Inc. hereby conditionally approves temporary use of the design freeboard of the process water system perimeter earthen dikes during an emergency condition based upon the results of a previous review and engineering evaluation of the various dike design and construction information, dike specific seepage and stability analyses, wind surge and wave run-up analyses and a recent visual inspection of all containment dikes made by Mr. Bill Jackson, P.E., or our Orlando office on February 7, 2012.

#### **Design Freeboard**

Ardaman & Associates, Inc. has performed wind surge and wave run-up analyses of the various process water storage ponds at the White Springs facilities to estimate the minimum freeboard needed during normal and emergency water conditions, so as not to overtop the dike crest in an uncontrolled manner, considering various sustained wind speeds. Seepage and stability analyses of perimeter dikes were also evaluated to confirm the structural stability of the various containment dikes at the higher operating water levels that could potentially occur during the emergency condition. The results of those analyses are presented and documented in the following Ardaman reports:

"Recommended Freeboards for the White Springs Phosphogypsum Stack Systems Based on Wind Surge and Wave Runup Criteria, White Springs Complex, Hamilton County, Florida", Ardaman File No. 06-104, dated July 31, 2006.

"Assessment of Existing Perimeter Earthen Dikes and Process Water Conveyance and Containment Systems Relative to Requirements of Rule 62-672 for the White Springs Phosphogypsum Stack Systems, Hamilton County, Florida", Ardaman File No. 06-104, dated April 9, 2007.

#### Temporary Use of Design Freeboard

The minimum freeboards presented in the above referenced report are based on wind surge and wave runup criteria only. Design and operational freeboards will need to be increased as necessary to accommodate runoff and water transfers required during the storm event. The minimum freeboard required prior to any storm event will depend on the anticipated rainfall intensity, total rainfall and the sustained maximum wind speed that will accompany the storm.

It is our opinion that the perimeter dikes of the PCS Phosphate process water cooling and storage ponds can safely withstand a temporary rise in water level corresponding to the minimum freeboard distances and for the various wind speeds presented in the above referenced report, as long as sustained wind speeds are forecast to remain below the maximum corresponding speeds specified therein. Until such time as the normal design freeboard is restored, PCS Phosphate must carefully monitor weather broadcasts, and must perform daily inspections of the exposed freeboard section and crest of the applicable perimeter dikes. In addition, the slope downgradient from the outside edge of crest must be inspected twice daily for any signs of seepage or dike instability. Any abnormal condition noted must be immediately reported to us, and action must be taken as soon as possible to remediate any potential problem that may be detected.

Please note that FDEP must be notified of the proposed temporary use of the design freeboard prior to or within 24 hours of such occurrence. If a controlled release of process water is anticipated to avoid overtopping of a perimeter earthen dike, that release, to the degree possible, should be through an existing emergency spillway that will allow a controlled release of water without endangering the integrity of the dike and with the discharge directed to a temporary storage area(s) that will minimize environmental impacts. If no emergency spillway is available, Ardaman & Associates should be contacted in advance of breaching any dike or containment system to review and approve the proposed plan to confirm that the proposed breach or discharge procedure will not endanger the dike integrity and result in a larger uncontrolled release.

We trust that this letter is responsive to your immediate needs. If you have any questions or need any additional information or specific guidance, please contact us.

Very truly yours,

ARDAMAN & ASSOCIATES, INC.

Bill E. Jackson, P.E. Principal Engineer

Florida License No. 23479

John E. Garlanger, Ph.D., P.E.

Senior Consultant

**BEJ/JEG** 



## PCS Phosphate - White Springs: Recovery from Tropical Storm Debby UPDATE 27Jun12

Calvin.Alvarez, Melissa.M.Long, Vishwas.Sathe,

Class News to: Tom.Rauth, Michelle.fish,

06/27/2012 07:55 PM

Heath\_Rauschenberger, Andrew.gary, jmd

Bcc: Terry R. White

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby.

The rainfall ceased late last night at our operations, and while we still have areas to further investigate, the break in the weather has been welcome.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### **Process Water**

Suwannee River Chemical - CTC Cooling Pond

- The overflow from the lower section of this pond, closest to SRC, continues this evening, though at a significantly reduced rate. We are still unable to estimate the volume of process water released as a result of this overflow. This morning, we initiated direct lime application at two different points upstream of OUI-02. We will continue this treatment until the outflow of freshwater from SRC has been restored to an acceptable condition. We are also assessing whether direct lime application could be effective at other internal locations. We are installing temporary pumps to move water from the lower pond to the upper pond and then into the emergency diversion area described below to further reduce the overflow.
  - We will include the location of the release, monitoring locations and monitoring data in our follow-up report.
- The upper section of this pond was breached late yesterday at a location that directed the flow into the toe of Clay Setting Area 4, then into an emergency diversion area immediately to the north of the CTC stack and west of CSA 4. With the cessation of rainfall, we are now able to hold water on the top of the CTC stack. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level.
  - We will include the location of the breach, duration and estimated volume of the flow through it, and a plan for recovery or treatment of the water in our follow-up report.

#### Mine

Clay Settling System

The maximum fluid elevation in the active clay settling areas is 152. The elevation reached 152.4, and stabilized there as of this morning. With the absence of strong winds that would cause excessive erosion, we do not believe this creates an unsafe condition.
 We will continue to monitor the fluid elevations, and will include that information in our follow-up report.

#### Eagle Lake

- The breach in the berm along the northern edge of the Swift Creek mitigation wetland opened yesterday has proven effective in allowing excess water to discharge through the mitigation wetland connection channel to Swift Creek. This results in a partial bypass of Eagle Lake (OUI-18). The connection channel is reinforced with rip-rap, is well vegetated, and was designed with more than adequate capacity to handle this flow. Our intent is to close that breach when the flows stabilize at a normal level.
  - We will include information on that bypass in our follow-up report, using the bypass provisions of the NPDES permit as guidance.



 Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

- We did have power supplied to the Environmental Lab with a generator late today, so will be able to
  conduct our regular analyses tomorrow. We have not been able to access all sampling locations, but
  we expect to find that our composite samplers have been damaged or destroyed. As a consequence,
  samples will be grab samples until we are able to access the sites and replace the affected
  equipment.
  - We will report on sample site conditions in our follow-up report.
- Suwannee River Chemical remains flooded, out of production, and without power due to flooding of substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable toilet facilities are being provided in the plant until the WWTP is restored to operation and determined to be in proper working order.
- We are treating process water at full rates, subject to lime availability and delivery limitations, at both Suwannee River Chemical and Swift Creek Chemical.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs

Office: 386 397 8304 Fax: 386 397 8390





## PCS Phosphate - White Springs: Recevery from Tropical Storm Debby UPDATE 28Jun12

Calvin.Alvarez, Melissa.M.Long, Vishwas.Sathe,

Tom.Rauth, Michelle fish,

06/28/2012 08:14 PM

Heath\_Rauschenberger, Andrew.gary, jmd,

860: Terry R. White

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby.

Another sunny day has been helpful, but we are mindful of the potential for heat siress in the coming days as our people continue the difficult tasks of recovery.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### **Process Water**

Suwannee River Chemical - CTC Cooling Pond

- The overflow from the lower section of this pond, closest to SRC, was stopped this morning. Significant effort to relieve the flooding in the plant now includes pumping water from the main fresh water outflow from the plant into this lower section of the cooling pond, from which it is the pumped to the upper cooling pond and the emergency diversion area. We are continuing direct lime application at multiple locations upstream of OUI-02 and the Altman Bay Retention Pond (OUI-06). We will continue this treatment until the outflow of stormwater from SRC has been restored to an acceptable condition. We are also assessing whether direct lime application could be effective at other internal locations.
  - We will include the location of the release, monitoring locations and monitoring data in our follow-up report.
- The upper section of this pond is being maintained at an acceptable level by the flow into the emergency diversion area immediately to the north of the CTC stack and west of CSA 4. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level and we have completed pumping of water out of the plant.

  We will include the location of the breach, duration and estimated volume of the flow through it, and a plan for recovery or treatment of the water in our follow-up report.

#### Mine

#### Clay Settling System

- The fluid elevation in the active clay settling areas has stabilized and begun to decline. This has enabled us to resume a limited amount of the normal pumping of excess stormwater into the system to relieve flooding in field areas.
  - We will continue to monitor the fluid elevations, and will include that information in our follow-up report.

#### Eagle Lake

- The breach in the berm along the northern edge of the Swift Creek mitigation wetland opened Tuesday continues to be effective in allowing excess water to discharge through the mitigation wetland connection channel to Swift Creek. This results in a partial bypass of Eagle Lake (OUI-18). The connection channel is reinforced with rip-rap, is well vegetated, and was designed with more than adequate capacity to handle this flow. Our intent is to close the breach in the berm when the flows stabilize at a normal level.
  - We will include information on that bypass in our follow-up report, using the bypass provisions of the NPDES permit as guidance.

#### Stormwater Management

 Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

- We attempted our regular sampling run today for the NPDES permit, but were not able to access some locations. All the composite samplers have been damaged or destroyed. As a consequence, samples will be grab samples until we are able to access the sites and replace the affected equipment.
  - We will report on sample site conditions in our follow-up report.
- Suwannee River Chemical remains flooded, out of production, and without power due to flooding of substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable toilet facilities are being provided in the plant until the WWTP is restored to operation and determined to be in proper working order. Swift Creek Chemical, Swift Creek Mine, and the Administration areas have full utilities.
- We are treating process water at full rates, subject to lime availability and delivery limitations, at Swift Creek Chemical. We suspended process water treatment at Suwannee River Chemical this morning to allow for reallocation of pumps and lime supply, focusing on the excess water outflow. Process water levels internal to the gyp stack systems are at stable, manageable levels.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs Office: 386 397 8304 Fax: 386 397 8390



### PCS Phosphate - White Springs: Recovery from Tropical Storm Debby UPDATE 29Jun12

Calvin Alvarez, Melissa M.Long, Vishwas Sathe,

Fom.Rauth, Michelle.fish,

06/29/2012 07:35 PM

Heath\_Rauschenberger, Andrew.gary, jmd,

ಕೆಂ: Terry R. White

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby.

Clear weather continues to be helpful. As the recovery work accelerates, we are taking extra precautions to work safely and avoid heat stress.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### Process Water

report.

Suwannee River Chemical - CTC Cooling Pond

- We made significant progress overnight and through the day to relieve the flooding in the plant. There is currently no direct flow of stormwater from the plant. We do still have multiple opportunities to make effective use of direct lime application to low pH water. The receding water level is enabling damage assessment and allowing us to reallocate resources to repair and restoration. We are planning to resume process water treatment at SRC this evening. Process water treatment is likely to be intermittent for the next several days as we balance lime supplies of different types and manage various water volumes.
  We will include the location of the release, monitoring locations and monitoring data in our follow-up
- The upper section of this pond is being maintained at an acceptable level by the flow into the emergency diversion area immediately to the north of the CTC stack and west of CSA 4. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level and we have completed pumping of water out of the plant.

  We are developing and beginning preparation for treatment-in-place of the water sent to the EDI. We will provide additional detail on this plan as it is finalized.

  We will include the location of the breach, duration and estimated volume of the flow through it, and a plan for recovery or treatment of the water in our follow-up report.

#### Mine

#### Clay Settling System

 The fluid elevation in the active clay settling areas is within acceptable limits. This has enabled us to resume a limited amount of the normal pumping of excess stormwater into the system to relieve flooding in field areas.

We will continue to monitor the fluid elevations, and will include that information in our follow-up report.

#### Eagle Lake

The breach in the berm along the northern edge of the Swift Creek mitigation wetland opened Tuesday continues to be effective in allowing excess water to discharge through the mitigation wetland connection channel to Swift Creek. This results in a partial bypass of Eagle Lake (OUI-18). The connection channel is reinforced with rip-rap, is well vegetated, and was designed with more than adequate capacity to handle this flow. Our intent is to close the breach in the berm when the flows stabilize at a normal level.

We will include information on that bypass in our follow-up report, using the bypass provisions of the NPDES permit as guidance.

Stormwater Management

 Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

- Suwannee River Chemical remains out of production, and without power due to flood-damaged substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable toilet facilities are being provided at SRC until the WWTP is restored to operation and determined to be in proper working order. We have issued a "Precautionary Boll Water" notice for drinking water systems at SRC, the Conference Center, and the Pan Parking Lot until we can collect samples and obtain bacteriological clearance. Bottled water is being provided for drinking. Swift Creek Chemical, Swift Creek Mine, and the Administration areas have full utilities.
- We are treating process water at full rates, subject to lime availability and delivery limitations, at Swift
  Creek Chemical. Process water treatment at Suwannee River Chemical will resume this evening but
  will be intermittent for the next several days. Process water levels internal to the gyp stack systems
  are at stable, manageable levels.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs Office: 386 397 8304 Fax: 386 397 8390



## PCS Phosphate - White Springs: Recovery from Tropical Storm Debby UPDATE 30Jun12

Calvin. Alvarez, Melissa. M. Long, Vishwas. Sathe,

Tom.Rauth, Michelle.fish,

06/30/2012 06:26 PM

Heath\_Rauschenberger, Andrew.gary, jmd,

Boo: Terry R. White

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby.

Clear weather continues to be helpful. As the recovery work accelerates, we are taking extra precautions to work safely and avoid heat stress.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### **Process Water**

Suwannee River Chemical - CTC Cooling Pond

- We have generally relieved the flooding in the plant, though there remain some isolated issues. There is currently no direct flow of stormwater out of the plant. Remaining stormwater is being pumped to the lower CTC cooling pond. The receding water level is enabling damage assessment and allowing us to reallocate resources to repair and restoration.

  We are treating process water at SRC. Process water treatment is likely to be intermittent for the next
  - We are treating process water at SRC. Process water treatment is likely to be intermittent for the next several days as we balance lime supplies of different types and manage various water volumes.
- The upper section of this pond is being maintained at an acceptable level by the flow into the emergency diversion impoundment immediately to the north of the CTC stack and west of CSA 4. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level and we have completed pumping of water out of the plant.

  We are developing and beginning preparation for treatment-in-place of the water sent to the EDI. We will provide additional detail on this plan as it is finalized.

#### Mine

Clay Settling System

The fluid elevation in the active clay settling areas is within acceptable limits. This has enabled us to continue to add to the normal pumping of excess stormwater into the system to relieve flooding in field areas.

Eagle Lake

The breach in the berm along the northern edge of the Swift Creek mitigation wetland opened Tuesday continues to be effective in allowing excess water to discharge through the mitigation wetland connection channel to Swift Creek. This results in a partial bypass of Eagle Lake (OUI-18). The connection channel is reinforced with rip-rap, is well vegetated, and was designed with more than adequate capacity to handle this flow. Our Intent is to close the breach in the berm when the flows stabilize at a normal level.

Stormwater Management

Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

Suwannee River Chemical remains out of production, and without power due to flood-damaged substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable toilet facilities are being provided at SRC until the WWTP is restored to operation and determined to be in proper working order. We have issued a "Precautionary Boll Water" notice for drinking water systems at SRC, the Conference Center, and the Pan Parking Lot until we can collect samples and obtain bacteriological clearance. Bottled water is being provided for drinking. Swift Creek Chemical, Swift Creek Mine, and the Administration areas have full utilities.

 We are treating process water at full rates, subject to lime availability and delivery limitations, at Swift Creek Chemical. We are also treating process water at Suwannee River Chemical as described above. Process water levels internal to the gyp stack systems are at stable, manageable levels.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs Office: 386 397 8304 Fax: 386 397 8390





## PCS Phosphate - White Springs: Recovery from Tropical Storm Debby UPDATE 1Jul12

Calvin.Alvarez, Melissa.M.Long, Vishwas.Sathe,

Tom.Rauth, Michelle fish,

07/01/2012 06:37 PM

Heath\_Rauschenberger, Andrew.gary, jmd,

ಆರಂ: Terry R. White

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby.

Clear weather continues to be helpful. As the recovery work accelerates, we are taking extra precautions to work safely and avoid heat stress.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### Process Water

Suwannee River Chemical - CTC Cooling Pond

- There is currently no direct flow of stormwater out of the plant. Remaining stormwater and water generated from equipment wash-down in the plant is reporting to the freshwater ditch (CNPW) and from there being pumped to the lower CTC cooling pond. The receding water level is enabling damage assessment and allowing us to reallocate resources to repair and restoration.

  We are treating process water at SRC. Process water treatment is likely to be intermittent for the next several days as we balance lime supplies of different types and manage various water volumes.
- No change from 30Jun: The upper section of this pond is being maintained at an acceptable level by the flow into the emergency diversion impoundment immediately to the north of the CTC stack and west of CSA 4. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level and we have completed pumping of water out of the plant. We are developing and beginning preparation for treatment-in-place of the water sent to the EDI. We will provide additional detail on this plan as it is finalized.

#### Mine

Clay Settling System

No change from 30Jun: The fluid elevation in the active clay settling areas is within acceptable limits. This has enabled us to continue to add to the normal pumping of excess stormwater into the system to relieve flooding in field areas.

#### Eagle Lake

After assessing the flow and quality of water coming through the system, we closed the bypass around Eagle Lake this afternoon.

#### Stormwater Management

No change from 30Jun: Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

No change from 30Jun: Suwannee River Chemical remains out of production, and without power due to flood-damaged substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable toilet facilities are being provided at SRC until the WWTP is restored to operation and determined to be in proper working order. We have issued a "Precautionary Boil Water" notice for drinking water systems at SRC, the Conference Center, and the Pan Parking Lot until we can collect samples and obtain bacteriological clearance. Bottled water is being provided for drinking. Swift Creek Chemical, Swift Creek Mine, and the Administration areas have full utilities.

No change from 30Jun: We are treating process water at full rates, subject to lime availability and
delivery limitations, at Swift Creek Chemical. We are also treating process water at Suwannee River
Chemical as described above. Process water levels internal to the gyp stack systems are at stable,
manageable levels.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs Office: 386 397 8304 Fax: 386 397 8390



PCS Phosphate - White Springs: Recovery from Tropical Storm Debby UPDATE 2Jul12

Calvin.Alvarez, Melissa.M.Long, Vishwas.Sathe,

Tom.Rauth, Michelle.fish,

07/02/2012 09:28 PM

Heath\_Rauschenberger, Andrew.gary, Jmd,

3cc: Terry R. White

13.777

This message has been forwarded.

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby. As conditions have largely stabilized, we will be reducing the reporting frequency to two times this week (today and Thursday). In the meantime, please do not hesitate to call if you need some additional information.

Clear weather continues to be helpful. As the recovery work accelerates, we are taking extra precautions to work safely and avoid heat stress.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### **Process Water**

#### Suwannee River Chemical

- There is currently no direct flow of stormwater out of the plant. Remaining stormwater and water generated from equipment wash-down in the plant is reporting to the freshwater ditch (CNPW) and from there being pumped to the lower CTC cooling pond. The receding water level is enabling damage assessment and allowing us to reallocate resources to repair and restoration. We are treating process water at SRC intermittently for the next several days as we balance lime supplies of different types and manage various water volumes.
- No change from 1Jul: The upper section of the CTC cooling pond is being maintained at an acceptable level by the flow into the emergency diversion impoundment immediately to the north of the CTC stack and west of CSA 4. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level and we have completed pumping of water out of the plant.

We are developing and beginning preparation for treatment-in-place of the water sent to the EDI. We will provide additional detail on this plan as it is finalized.

#### Mine

#### Clay Settling System

• No change from 1Jul: The fluid elevation in the active clay settling areas is within acceptable limits. This has enabled us to continue to add to the normal pumping of excess stormwater into the system to relieve flooding in field areas.

#### Eagle Lake

No change from 1Jul: After assessing the flow and quality of water coming through the system, we closed the bypass around Eagle Lake on the afternoon of 1Jul..

#### Stormwater Management

 No change from 1Jul: Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

 Suwannee River Chemical remains out of production, and without power due to flood-damaged substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable tollet facilities are being provided at SRC until the WWTP is restored to operation and determined to be in proper working order. We have issued a "Precautionary Boil Water" notice for drinking water systems at SRC, the Conference Center, and the Pan Parking Lot until we can collect samples and obtain bacteriological clearance. Bottled water is being provided for drinking. Due to a temporary power outage at the Administration potable water system, a "Precautionary Boil Water" notice was issued today for that area until we can obtain bacteriological clearance. The wastewater system remains in operation. We are hopeful of having all these drinking water systems back in full operation by the end of this week or early next week. Swift Creek Chemical and Swift Creek Mine have full utilities.

 No change from 1Jul: We are treating process water at full rates, subject to lime availability and delivery limitations, at Swift Creek Chemical. We are also treating process water at Suwannee River Chemical as described above. Process water levels internal to the gyp stack systems are at stable, manageable levels.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs Office: 386 397 8304 Fax: 386 397 8390



## PCS Phosphate - White Springs: Recovery from Tropical Storm Debby UPDATE 5Jul 12

Calvin.Alvarez, Melissa.M.Long, Vishwas.Sathe,

· Tom.Rauth, Michelle.fish,

07/05/2012 09:05 PM

Heath\_Rauschenberger, Andrew.gary, jmd,

ਰੋਹਰ: Terry R. White

This brief summary is to update the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby. As conditions have largely stabilized, we will be reducing the reporting frequency to weekly next week, probably Thursday or Friday. In the meantime, please do not hesitate to call if you need some additional information.

Clear weather continues to be helpful. As the recovery work accelerates, we are taking extra precautions to work safely and avoid heat stress.

We will follow up with more detailed information, including drawings and photos. This memo is a very brief summary of major activities.

#### Process Water

Suwannee River Chemical

- No change from 2Jul: There is currently no direct flow of stormwater out of the plant. Remaining stormwater and water generated from equipment wash-down in the plant is reporting to the freshwater ditch (CNPW) and from there being pumped to the lower CTC cooling pond. The receding water level is enabling damage assessment and allowing us to reallocate resources to repair and restoration. We are treating process water at SRC intermittently for the next several days as we balance lime supplies of different types and manage various water volumes.
- No change from 2Jul: The upper section of the CTC cooling pond is being maintained at an acceptable level by the flow into the emergency diversion impoundment immediately to the north of the CTC stack and west of CSA 4. Our intent is to close this breach as soon as the upper section of the CTC cooling pond reaches an acceptable level and we have completed pumping of water out of the plant.

We are developing and beginning preparation for treatment-in-place of the water sent to the EDI. We will provide additional detail on this plan as it is finalized.

#### Mine

Clay Settling System

The fluid elevation in the active clay settling areas is within acceptable limits. This has enabled us to continue to add to the normal pumping of excess stormwater into the system to relieve flooding in field areas. Conditions in field areas have recovered sufficiently to allow resumption of mining operations, though issues in the Mill have slowed that process.

#### Eagle Lake

No change from 2Jul: After assessing the flow and quality of water coming through the system, we closed the bypass around Eagle Lake on the afternoon of 1Jul..

#### Stormwater Management

No change from 2Jul: Drying conditions over the next several days will enable us to assess any stormwater management issues at remote locations in the mine.

#### General

No change from 2Jul: Suwannee River Chemical remains out of production, and without power due to flood-damaged substations. The potable water system is operating on a generator, but the wastewater treatment plant is out of service. Portable toilet facilities are being provided at SRC until the WWTP is restored to operation and determined to be in proper working order. We have issued a

"Precautionary Boil Water" notice for drinking water systems at SRC, the Conference Center, and the Pan Parking Lot until we can collect samples and obtain bacteriological clearance. Bottled water is being provided for drinking. Due to a temporary power outage at the Administration potable water system, a "Precautionary Boil Water" notice was issued today for that area until we can obtain bacteriological clearance. The wastewater system remains in operation. We are hopeful of having all these drinking water systems back in full operation by the end of this week or early next week. Swift Creek Chemical and Swift Creek Mine have full utilities.

- No change from 2Jul: We are treating process water at full rates, subject to lime availability and
  delivery limitations, at Swift Creek Chemical. We are also treating process water at Suwannee River
  Chemical as described above. Process water levels internal to the gyp stack systems are at stable,
  manageable levels.
- Discharge water quality is gradually recovering to normal ranges. As of last Thursday (June 28), we
  have resumed normal NPDES permit monitoring, though samples will be grab only due to loss of all
  our continuous samplers in the flooding.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs Office: 386 397 8304 Fax: 386 397 8390



Stan
Posey/Enva/WhiteSprings/Ph
osphate/PCS

07/27/2012 04:13 PM

To Calvin.Alvarez@dep.state.fl.us, Melissa.M.Long@dep.state.fl.us, Vishwas.Sathe@dep.state.fl.us,

CC

bcc Michael Brom/SH&E/Northbrook/Inc/PCS@PCS; KarIn S Torain/Legal/Northbrook/Inc/PCS@PCS; Terry Baker/Admin/WhiteSprings/Phosphate/PCS@PCS; Eric Norman/Mine/WhiteSprings/Phosphate/PCS@PCS; Jeff Kitto/Chem/WhiteSprings/Phosphate/PCS@PCS; trwhite@potashcorp.com; jgarlanger@ardaman.com; BJackson@ardaman.com; Bill J

Ellis/Chem/WhiteSprings/Phosphate/PCS@PCS; Rockie H Pitts/Chem/WhiteSprings/Phosphate/PCS@PCS; Merle R Barber/Chem/WhiteSprings/Phosphate/PCS@PCS; Jeff Hallberg/Mine/WhiteSprings/Phosphate/PCS@PCS; Cameron Lynch/Mine/WhiteSprings/Phosphate/PCS@PCS;

Mike D.

Williams/Admin/WhiteSprings/Phosphate/PCS@PCS
Subject PCS Phosphate - White Springs: Recovery from Tropical

Storm Debby FINAL UPDATE 27Jul12

This brief summary is the final update for the agencies on certain aspects of the recovery efforts of PCS Phosphate - White Springs from the impact of Tropical Storm Debby.

Conditions have stabilized and water systems are all operating within normal ranges. Water quality monitoring is all being done under the NPDES permit.

The diversion of extraordinary process water volumes to the Emergency Diversion Impoundment north of the Suwannee River Chemical CTC phosphogypsum stack was stopped on July 15. We have initiated a pilot test of a system to treat that water in place. The treatment and disposition plan for that water will be included in our final report.

We have begun drafting the final report, which will include all data collected during the storm and recovery period as well as the EDI plan. Our hope is to submit that report no later than mid-August.

Please feel free to call me or Bill Ellis if you have any questions about these matters. We will keep you informed as things progress.

Stan

Stanley W. Posey Manager, Environmental Affairs PCS Phosphate -- White Springs

Office: 386 397 8304 Fax: 386 397 8390



# PCS Report Attachments